International Norms on ICTs for Development: New Data, Initial Findings and Opportunities for Analysis

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International organizations and multilaterals have played an important role in fostering recent interest in the potential to use information and communication technologies (ICTs) to promote development (ICT4D). In addition to investment in specific projects, a substantial portion of this activity has involved research, analysis, and the production of public reports on ICTs for development. In this paper I present new data gathered from an analysis of 39 reports produced in the period 1994-2005 by ten different organizations. I highlight key trends in norms about the uses of technology and the goals of ICT for development initiatives, in addition to perspectives on potential barriers to success and strategies for overcoming these barriers. I then test the relevance of these international norms in the cases of India and South Africa. Through this discussion I show that while there has been significant interest in ICTs for development, there is only moderate level of consensus across these organizations on ICT4D norms. In addition, while there is some evidence of activities consistent with these norms and perspectives at the domestic level, there are clear economic and political barriers to the adoption of new ICT for development strategies without explicit sanctions or incentives.

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An important shift in the international development agenda over the last decade has been the increased attention to information and communication technologies as potential tools for development. Many international organizations and multilateral institutions have dedicated considerable attention and resources to the promotion of technologies such as personal computers, mobile phones and the Internet in hopes of improving economic, social and political development in countries around the world. The interest in information and communication technologies for development (ICT4D) emerged in the early-mid 1990s, survived the dot.com bust and perhaps has reached a peak with the 2003/2005 meetings of the World Summit on the Information Society. But what effect have the efforts of organizations such as the World Bank, United Nations Development Program (UNDP), United Nations ICT Task Force, the Markle Foundation, and the United Nations Conference on Trade and Development had on actual development processes?

The efforts of international development organizations to promote ICTs for development can be categorized broadly into two classes: investments and discursive activities. In the former category are all those ICT development projects that are funded by international actors, either through grants or loans. In the latter group are efforts to promote discussion and debate on ICT4D, such as UNCTAD's annual eCommerce and Development Report, publications by the World Bank's infoDev group, and the World Summit on the Information Society. The general goals of these conferences and reports are to track trends in the topic area and influence the behavior of developmental actors, be they policy makers or practitioners in the field. But amongst all of these activities, is there any consensus about the uses of ICTs for developmental purposes? Are there themes that run through the hundreds of reports regarding the potential risks and benefits of incorporating ICTs into development programs? If so, is there any proof that these themes appear in the efforts on the ground to implement ICT initiatives with developmental goals?

The goal of this paper is promote a discussion about the role of international actors in ICT for development efforts and to create a foundation for answering these and related questions concerning current efforts to promote ICT4D. The starting point for this analysis is the large number of reports produced by these organizations. I have built a new database of ICT4D themes based on a sample of 39 reports produced in the period 1994-2005.[1] In reviewing the reports, I coded the themes by posing six main questions to the texts: What specific technologies can or should be used for ICT4D purposes? What are the particular ways in which these technologies could be used? What are the ultimate developmental goals for using these technologies? What actors could or should be involved in these efforts? What barriers or risks are there to ICT4D initiatives? What strategies could be used to overcome these barriers and risks? The answers to these questions then represent a significant portion of the discussions on ICTs for development that have taken place in the last decade.

I begin here to address the questions raised above about international ICT4D norms based on this new data. I present some basic descriptive statistics and highlight interesting trends in the themes addressed by these reports. I show that while there has been significant interest in ICTs for development, there is only moderate level of consensus across these organizations on ICT4D norms. For three of the key norms on which there is a reasonable amount of consensus, I then provide an initial analysis of how these norms do and do not match with efforts on the ground in two of the developing countries that have seen the most ICT4D activity, India and South Africa. Here I show that while there is some evidence of activities consistent with these norms at the domestic level, there are clear economic and political barriers to the adoption of new norms without explicit sanctions or incentives. While the findings based on these data are not necessarily generalizable to all reports produced by international organizations regarding ICTs and development, they do provide the most comprehensive look at trends in these norms currently available. Opportunities to improve this data could include increasing the sample size, expanding the sampling frame, and

[1] The details of the database development are presented in Appendix I.

testing the findings on different data, such as interviews with representatives of key organizations in the sample.

In addition to the initial questions raised above, this database will serve as a resource for answering other questions related to international ICT4D norms. While there is not space in this paper to pursue all of these questions, at least three additional areas for research based on this data are worthy of consideration: 1) What is the relationship between international ICT4D norms and broader developmental norms? Do ICT4D norms reflect broader developmental trends, such as the neo-liberal agenda or the Millennium Development Goals, or are there unique characteristics? Have discussions driven by ICT issues led to changes in the broader developmental agenda, such as the new inclusion of access to information and knowledge as a characteristic of development itself? 2) How does the development of ICT4D norms compare to the development of other international norms in terms of speed to consensus, level of consensus, number of active actors in the debate, etc? Are there specific differences in the development of norms focused on developing countries versus those focused on all countries or developed industrialized countries in particular e.g. environmental standards or nuclear non-proliferation? 3) How, if at all, have international ICT4D norms diffused into domestic-level ICT4D activities? What mechanisms might account for these diffusion processes? While I present an initial discussion of these questions and potential answers in the section on India and South Africa below, there is considerable room for broadening this analysis to the larger set of developing countries.

Why International ICT for Development Norms?

One might preface this discussion by asking why we care about international norms generally and international information and communication technology for development norms in particular. In terms of the first question, the continually growing literature on international norms provides ample evidence for the significance of norm analysis.

Finnemore and Sikkink (1998) define a norm as “a standard of appropriate behavior for actors with a given identity” (891). Within the international realm, norms are often developed among actors working within international institutions and organizations, with the expectation that they will then influence activities at the domestic level. Constructivist accounts of the importance of international norms in affecting state behavior have increased our understanding of foreign policy decisions such as the non-use of nuclear weapons in the post-WWII era (Price & Tannenwald 1996), and interventions into sovereign nations in order to protect internationally recognized human rights (Keck & Sikkink 1998). The question for international ICT and development norms is whether they have an effect on domestic policies to pursue development and ICT access. In this discussion I will consider both norms about how information and communication technologies can and should be used for development, in addition to newer, and more prescriptive norms, that are emerging about appropriate strategies for overcoming barriers to ICT4D efforts.

ICT for development norms are specifically interesting for three main reasons. First, information and communication technologies have received a large amount of attention in the development world. In addition to reports, international organizations, multilaterals, non-governmental organizations, and national governments have contributed large amounts of capital and human resources to ICT for development initiatives. While it continues to be unclear the actual benefits that will accrue to developing countries from the introduction of these technologies, the magnitude of activity is worthy of attention in and of itself. Second, despite this large amount of activity in the development world, there has been little rigorous analysis conducted on this new set of norms. Who are the actors that dominate these debates? Why are these actors in particular playing such an important role? What are the drivers and themes of their discussions? What is the broader relevance of these discussions to developing countries? While I will not be able to address all of these questions in this paper, I hope to provide some initial insights and stimulus for future analysis. Third, ICT4D norms have developed at what one might call ‘Internet speed.’ Ten years is incredibly fast for

the development of an international consensus, even if, as I show in greater detail below, the consensus is not always a strong one. Consider, in comparison, the evolution of international norms on human rights, which were codified in the 1948 Universal Declaration of Human Rights, but are not seen to have merited external intervention until the 1970s (Keck and Sikkink 1998, Chap. 3). While ICT norm development may be the beneficiary of early technology and development efforts, such as the appropriate technology movement, this legacy is not generally acknowledged in current discussions.

Initial Findings - General Trends

In this section I present some of the initial findings on themes in international ICT for development norms based on preliminary analysis of this new dataset. The 39 total reports reviewed were from ten different organizations.[2] As noted above, the themes in a single report were determined based on the answers to six questions concerning the types of technologies promoted, uses and goals of these technologies, appropriate actors to involve in a project, barriers and risks to initiatives, and strategies to overcome these obstacles. The basic coding scheme involved a dichotomous coding in which a 'one' signifies the presence of a theme in the document. Documents were coded one if there was one or more mention of a particular theme. They were coded zero if the theme was mentioned in the negative (e.g. Dial-up connections used to be the goal, but now people are striving for broadband connections). The majority of zeros, however, are due to non-mentions.

The findings presented in this section are based on simple percentages of the number of times a particular theme appears in the database. I track themes in three different ways: percentage of mentions across all reports and organizations, compared across the

[2] The organizations in the database are: the Global Knowledge Partnership, the Markle Foundation, the Overseas Development Institute, the Organization for Economic Cooperation and Development, the United Nations ICT Task Force, the United Nations Conference on Trade and Development, the United Nations Development Program, the United Nations Industrial Development Organization, the World Bank, and the World Summit for the Information Society. A list of all the reports is provided in Appendix II.

periods 1994-1999 and 2000-2005; percentage of mentions across reports by a single actor, such as the World Bank, during the periods in which they produced reports; and trends in themes across all organizations over each year in the 2000-2005 period. I track the trends in these three ways in order to establish whether there is change over time, whether any single actor seems to be driving a given trend in the data, and to consider the speed of change in norm themes during the period of the most report-producing activity, 2000-2005. This is additionally important because some organizations, such as the UNDP and World Bank, have produced reports more regularly over the ten years being analyzed than other organizations. That said, the trends noted in the period from 2000-2005 are more likely to be representative of the broad spectrum of organizations as this period was much less dominated by a small group of organizations.

I consider first general trends in themes between the period 1994-1999 and 2000-2005. The logic for this temporal divide is two-fold: trend analysis across two broad periods allows us to observe general themes over time and splitting the total time period involved in half makes intuitive sense. The break at 1999/2000 is also important because it marks the end of the dot-com boom in the industrialized countries with the stock bubble crash in the spring of 2000. In this section, where relevant, I also consider more nuanced trends in the most recent period. The sample size for each year is quite small (varying from 5-8 reports), so these trends in themes can be understood only as descriptive evaluations of what may be interesting trends for further analysis. I begin this analysis with the data from 2001, because prior to this year there were only one or two organizations in the sample for each year. I continue only through 2004, rather than 2005, for the same reason. While the overall thematic trends noted in the section may seem obvious to the regular observer or analyst of ICT4D issues, this represents the first attempt to identify these trends in a more rigorous manner.

There are not strong norms on the types of information and communication technologies that should be used for developmental purposes. In general, earlier discussions

were more likely to mention networks and connectivity specifically. Post-1999 discussions instead, when they mentioned specific technologies at all, emphasized software and new connectivity solutions such as wi-fi and VOIP. While the need for content, particularly in local languages, was recognized consistently over time, emphasis on new and adapted technologies specific to development countries began only in the latter period.

As for the potential uses of ICTs in developing countries, information access and exchange are, unsurprisingly, emphasized as key uses for ICTs across the entire time period. In particular, access to general development information and market information are seen as the most relevant uses. Emphasis on the economic uses of ICTs generally increased in the second period, with more attention to creating efficient markets, increasing manufacturing and services productivity, and implementing eCommerce initiatives. Similarly, eGovernment initiatives emerged as a technology use theme in the post-1999 period. While social development has been a consistent theme in ICT4D discussions, as I discuss in more detail with regard to the goals of ICT use, ICTs as specific tools for social development actors gained relatively less attention. Specific mention of ICT tools for education, health, and environmental actors appeared in only approximately a quarter of the documents.

While the uses of ICTs represent attitudes about the means to development, the specific developmental ends of ICT4D efforts receive even more attention across the reports. In this discussion I consider the goals for ICTs and development in terms of three developmental categories: economic, social and political. These categories are derived from Sen's (1999) definition of development.

In terms of economic development, there is a consistent emphasis on economic growth by approximately half of the reports, in addition to emphasis on increased competitiveness for local industries in the global economy. Increased income for domestic actors also emerges as a theme in the latter period. In the second period, economic growth was noted by all of the reports in 2001, but by only a few in the following years, only to see a resurgence of interest to 60% in 2004. This may be related to the emphasis during the

middle years on the Millennium Development Goals and WSIS agenda, which placed perhaps greater emphasis on social development goals.

There are a wide variety of social development goals that international organizations see as potentially affected by ICT use. Reduced poverty in general and improved education and health care are emphasized to a similar magnitude, with approximately 60% of all documents mentioning these themes. These are the most mentioned themes across the entire dataset. Improved environmental conditions and sustainability are also mentioned by more than 40% of the documents. Other important themes are reduced inequality, in particular gender inequality, youth empowerment, and improved agriculture. Each of these trends gained significantly more attention in the latter period.

Discussion of political development is less common than economic or social development, but still present in many cases. Improved access to government services was noted by 43% of documents in the 2000-2005 period, while more transparent government and participatory decision-making were also emphasized by approximately quarter of the reports in this timeframe. Within the latter period, however, there was notable variation in attention to these political issues. While government use of ICTs was promoted by 50-80% of the reports in each year, the anticipated benefits of government access fluctuated significantly. Improved access to government services saw a drop in interest during the middle years, from highs of 60% on either end. Participatory decision-making was an early theme that saw a sharp, but not complete, decrease in interest. Improved political decision-making generally, however, saw inconsistent but increasing support in these documents.

Perspectives on the actors who could and should play a role in ICT4D efforts changed significantly over the ten years in question. During the initial stage of interest in ICTs, national governments and multilateral lending institutions were the main proposed actors, with national governments' main roles considered opening the telecommunication industry to competition. In the latter period a much larger range of types of organizations were discussed, while the documents also increased their emphasis on national

governments and multilaterals (from 27% to 54% and 18% to 43% respectively). Other levels of government, such as state/provincial or municipal gained attention, as did non-governmental organizations, private companies, and academia. While public-private partnerships were discussed throughout the entire ten years, it was only in the second period that multi-stakeholder partnerships became an important part of the discussions. Grassroots actors also gained much more attention in the period 2000-2005.

The barriers to success of ICT4D efforts and risks involved in these efforts have been an important topic of consideration in international reports. Somewhat surprisingly, economic barriers to access do not merit mention in more than half of the report sample. The most common economic barriers mentioned are the cost of access and, mainly in the second period, the difficulty of accessing capital. This lack of attention is despite the fact that, as I discuss below, one of the key current topics of debate is how to fund all of the currently proposed ICT4D initiatives.

In terms of technical barriers to success, weak infrastructure and the lack of local technical expertise were the most commonly mentioned problems in the early period and continue to be issues today. Another important topic, though less frequently mentioned, is the need for global technical standards to support expansion of technology access.

Regulatory barriers were mentioned by 64% of the reports in the first five years. In particular the emphasis was on the need to liberalize the telecommunications industry in hopes of price decreases thanks to competition. While attention to telecommunication regulations decreased in the second period, references to a variety of other regulatory topics emerged, such as top-level domain policies, privacy and security protections, and intellectual property rights protections.

A small number of political constraints were mentioned in the reports, the most important of which were the need for political will to support an ICT4D initiative, and the risk that implementing new technologies without considering local power structures would potentially further exacerbate power inequalities in a given community.

Cultural and institutional concerns gained greater attention, with the potential threat of new technologies to local culture being particularly prevalent in the early years of discussions. The organizational difficulties of integrating new technologies were also noted in reviews of both governmental and private sector adoption of ICTs.

The years 2000-2005 witnessed an emergence of concern regarding the difficulties of implementation. The documents began to emphasize problems with scaling up pilots in particular. Issues related to ICT4D strategies also emerged, such as conflicts between economic and social objectives and the need to integrate technology-focused initiatives into broader development strategies.

The documents also made many propositions as to how various actors should attempt to resolve the difficulties experienced in these initiatives. Telecommunications liberalization was the dominant recommendation in the early period. A push for national e-strategies, or broad strategies which would potentially encompass both regulatory reforms and investments in technology and related endeavors, emerged in the second period. This was closely followed in 2003 by the recommendation to incorporate e-strategies into the broader development agenda, most commonly in World Bank promoted Poverty Reduction Strategy Papers (PRSPs), and with an eye specifically toward using ICTs to help achieve the Millennium Development Goals (MDGs). This is commonly called ‘mainstreaming’ ICTs and emphasizes a consideration of ICTs as the means to development, rather than ends in and of themselves. The World Bank, UNDP, UN ICT Task Force, UNCTAD, and the OECD all mentioned mainstreaming ICTs in reports during 2003 (63% of that year’s reports, compared to zero mentions in previous years).

Technical training for locals and general capacity building in terms of literacy and knowledge of ICTs have been consistent recommendations throughout the past decade. As noted above, there has also been a recent emergence of interest in efforts to incentivize local entrepreneurs and SMEs, provide better access to capital, and develop more innovative financing mechanisms, such as the Digital Solidarity Fund.

While almost never mentioned during the first five years, strategies to improve implementation processes became a prevalent topic of discussion in the latter period. While this is perhaps predictable, it is an important shift in the nature of debates and peoples' perceptions about what is necessary to make ICTs relevant for developmental goals. In particular, there is emphasis in the last few years on project evaluation and consolidation of information on ICT4D initiatives. A few years after many countries and donors began to implement projects many realized that there was no consistent evaluation, monitoring or data collection occurring with regard to these initiatives. This limited practitioners' ability to track and map the large number of projects and to gauge the overall success of these initiatives. In addition, lack of evaluation data has prevented broad learning across projects.

More attention has also been given to the importance of including local actors in project development and paying attention to specific local conditions when designing an initiative. These techniques are recommended both to ensure that a project is useful in the community in which it is implemented and to prevent any unanticipated negative social or political outcomes from the project.

Politically, the most important recommendation of the latter period was to find ways to support developing country participation in international standards and regulatory debates. Some specific recommendations were to support domestic capacity building for participating in regulatory meetings, financial support for attending conferences and meetings, and creating an intergovernmental policy working group.

Initial Findings - Organizational Trends

It is worth asking whether one or two organizations in particular are acting to promote any particular ICT for development norms. In order to provide an initial answer to this question, I evaluated thematic trends among the reports produced by individual actors, particularly

some of those whose reports dominated the sample: the World Bank, UNCTAD, and the UN ICT Task Force.

The World Bank

The World Bank's major ICT-specific initiative has been the infoDev program. This program began in 1995/6 with the goal of ensuring that developing and transitional countries would benefit from innovations in telecommunications and be able to participate fully in the global economy. The majority of the World Bank documents reviewed were infoDev annual reports, which highlighted trends in ICT4D and discussed the types of initiatives that the program was supporting financially. infoDev was incorporated into the newly formed Global Information and Communication Technologies office of the Bank in 2000 and it continues to be active in ICT4D initiatives. More recent reports included the Banks' general ICT strategy and the Global IT Report.

The Bank has focused consistently on general connectivity and Internet access, in addition to an early focus on country relevant content development. In terms of the proposed uses of ICTs, they have emphasized access to promote more efficient markets and production processes, in addition to more efficient government and educational activities.

The goals of ICT4D initiatives have consistently focused on economic growth and poverty reduction. Improved education, health care, and environmental sustainability have also been highly emphasized, in addition to reduced inequality and a more recent specific focus on improved gender equality.

World Bank reports have dedicated little attention to specifying the actors who should or should not be involved in projects, but public-private partnerships were mentioned in 50% of the reports.

Barriers or risks to ICT4D emphasized by the Bank include the lack of local technical expertise and the difficulty of training locals, though they also consistently supported local training efforts. The Bank noted the threat of an ever-increasing digital divide (though other

reports reviewed in the sample question whether the digital divide is actually currently increasing). In earlier reports the Bank also put significant emphasis on the problems with telecom monopolies and the need for global standard setting. The Bank has noted risks relating to increasing the power of the already powerful in communities and threats to local cultures from introducing new technologies.

In the recent period, the Bank emerged as a source of critique on early ICT4D efforts, arguing that there was no clear overall picture of ICT4D initiatives. At the same time, infoDev has consistently positioned itself as a central resource for information on ICT4D activities and continues to emphasize this role in light of a general call for greater data collection on projects. The Bank also frequently notes that the results of early initiatives were unclear and there needed to be more rigorous evaluations conducted, and that ICTs are insufficient if not incorporated into broader development strategies. World Bank strategy recommendations include a strong early focus on telecom liberalization and inclusion in the 2003 movement to “mainstream” ICTs in development strategies.

UNCTAD

UNCTAD’s contribution to the literature on ICT4D comes from yearly publications of the eCommerce and Development Report, which was initiated in 2001. These documents have an explicit focus on ICTs as tools of businesses, but UNCTAD also frequently highlights the opportunities for improving education, health care, environmental conditions, and general poverty reduction.

UNCTAD reports have given perhaps the greatest attention of any organization to specialized technologies, in an effort to track trends of potential relevance to the business community in developing countries. In particular, UNCTAD has highlighted the potential role of open source software, Wi-fi, mobile phones, community tele-centers, and web services.

Unsurprisingly, more efficient markets, market expansion, increased economic productivity, and access to market information were key potential uses of ICTs cited by

UNCTAD reports. The overwhelming goals of these efforts are economic growth and international competitiveness for local industries.

UNCTAD sees an important role for national governments in ICT4D efforts, but domestic companies, MNCs, and donors are also expected to play a role, particularly in the form of public-private partnerships.

The UN ICT Task Force

The UN ICT Task Force was set up as a general group to track and promote ICT initiatives in the UN. Rather than promoting any particular type of technology, the Task Force often noted the importance of developing specific content for users in a given developing country, in addition to the need to adapt technologies for specific developing country needs.

Instead of economic growth, the Task Force emphasizes the potential to use ICTs for poverty reduction and improved education, health care, environmental conditions, and gender equality in line with the MDGs.

As far as the actors participating in ICT efforts are concerned, the Task Force promotes a wide range, including multilaterals, national governments, private companies, NGOs, and local actors, with an emphasis on public-private and multi-stakeholder partnerships.

The Task Force does not allocate significant attention to ICT4D barriers and risks, but does emphasize the need to mainstream ICTs and improve the monitoring and evaluation of ICT initiatives, in addition to better information sharing between actors pursuing ICT projects. They also note the need for more innovative funding mechanisms.

The Global Knowledge Partnership

The Global Knowledge Partnership (GKP) is also worth noting for its strong emphasis on Multi-Stakeholder Partnerships. While public-private partnerships were noted off and on through the 10-year period as a potential organizational option for promoting ICTs,

it is only in the last 5 years that partnerships bringing together the public and private sectors with civil society have gained attention. The GKP, itself a multi-stakeholder partnership, has played a dominant role in advancing this model.

International ICT4D Norms and Domestic Activities

While international ICT for development norms are perhaps interesting in and of themselves, as evidence of organizational and advocacy efforts at the international level, they are of much greater interest if we can establish that they have actual effects on developmental practices at the domestic level. As noted above, the importance of international norms on domestic activities in general has received considerable attention in comparative political economy and international relations. Recently authors have increasingly focused on the mechanisms by which issues and ideas at the international level have an influence on domestic politics. Finnemore and Sikkink (1998) consider first the processes by which norms develop at the international level. In this three-stage process, norms emerge through the activities of norm entrepreneurs who attempt to convince a 'critical mass' of states to adopt the norms (ibid. 895). In the case of ICT for development, international organizations and multilaterals have often been playing this role, as expressed in the multitude of documents produced and the sample examined for this analysis. As countries adopt the norm, there is a tipping point at which time more and more countries will adopt the norm, resulting in a 'norm cascade.' In final stage of the process the norm has been so thoroughly adopted that it is considered 'internalized.' The closest we are to an internalized norm in the ICT for development arena is that of telecommunications privatization and liberalization, which, as I show below, is in practice far from fully internalized. While this model is helpful for framing norm analysis, in the case of ICTs and development it seems that the norm evolution stages are somewhat more fluid. Norm entrepreneurs are continually learning from the examples being set by actors within developing countries at the same time various norms are being

developed and promoted. This makes it somewhat more difficult to track norm processes, but a detailed analysis may also help to shed light on the dynamic norm development and diffusion processes actually at work.

Simmons and Elkins' (2004) analysis of liberalization policy diffusion also provides a helpful discussion of international diffusion mechanisms. Their core argument is that policy diffusion, in this case economic liberalization policies, occurs as a result of two broad mechanisms: altered payoffs, in which decisions to adopt a policy by one country change the costs and benefits of policy adoption for other countries, and new information, in which policy adoption by other countries provides new information on whether or not the given policy would be appropriate for another country. In the context of ICTs for development, early discussions of the 'digital divide' may be a good example of the first mechanism; as more countries promoted ICT access, the cost for other countries of not promoting ICTs was perceived to increase. This was particularly the case in reference to the anticipated use of ICTs for economic growth. The potential role of new information also seems consistent with the transmission of ICT4D norms; as international organizations collect information on current projects, not only do they provide this information to other actors, but they may also update their perspectives on ICT4D, thereby contributing to norm evolution. Further evaluation of the viability of these mechanisms in ICT4D norm transmission is called for.

One additional factor to consider is that the majority of these analyses focus on the response of political actors at the national level to international norms, rather than the response of actors at the sub-national level. While the effect of international norms on national policies is clearly important, in the area of ICTs for development this narrow focus restricts our perspective, given the large number of activities originating at lower levels of government and in the private sector. What mechanisms link international norms to state and municipal politicians and bureaucrats, to private sector actors, and to local NGOs? While Simmons and Elkins find little support in their analysis for a connection between personal communications links and policy diffusion, it may be the case that a communication

mechanism is more relevant among actors at the sub-national level. Given the strong presence of multilateral aid and NGO support for ICT4D activities, it seems likely that these connections would provide at least one clear conduit for norm diffusion.

With these mechanisms in mind, I will now consider the specific experiences of India and South Africa. Due to space limitations, it is not possible in this space to track all of the themes noted by these documents relative to activities in these cases. I will instead begin to answer three key questions that highlight major themes illuminated by these reports: 1) What regulatory strategies have been utilized to promote ICTs? 2) Have ICTs been incorporated into broader development strategies? 3) What steps have been taken to track and evaluate initiatives? These three questions track normative themes over the ten year period of analysis, beginning with early norms regarding telecommunications regulatory reform and progressing to the most recent efforts to mainstream ICTs into the broad development agenda and improve monitoring and evaluation processes.

According to the trends that emerged from the report analysis, we would expect these countries to have privatized and liberalized their telecommunications industries and provided incentives to domestic businesses and entrepreneurs to promote local ICT growth. In addition, we might expect national governments to implement universal service or access programs to promote access in poor and rural areas. We would then also expect national governments to have developed explicitly the ICT components of their national development strategies, most likely through incorporation into Poverty Reduction Strategy papers (PRSPs). Finally, we would expect to see recent efforts to track ICT initiatives and develop monitoring programs for evaluating the results of these initiatives.

India

Liberalization and privatization of the telecommunications industry in India has progressed in fits and starts. In 1994 the Indian government introduced the National Telecommunications Policy in an attempt to liberalize the market. This Act was followed by the

Telecommunications Regulatory Authority of India Act 1997 which created a new regulator for the industry (TRAI) and the New Telecommunications Policy 1999. It was determined in 1994 that private investment would be needed to meet the government's goals of telephone availability on demand at reasonable prices, even in rural areas, but private sector players did not enter the market as quickly as expected, thereby leading the government to revise its policies in 1999 (Sinha 2002: 8). Throughout these policy revisions, efforts were made to modify the structure of the telecommunications industry, which in 1990 was dominated by semi-public Mahanagar Telephone Nigam Limited (MTNL) for domestic service provision in Bombay (Mumbai) and New Dehli, Videsh Sanchar Nigam Limited (VSNL) for international services, and the Department of Telecommunications (DoT) for the remainder of domestic services continued to be operated by the DoT and both corporations were still tightly linked to the department. In 1999 the DoT was divided into regulatory (DoT) and service provider (Department of Telecommunications Services or DTS) entities. A year later the DTS was changed to Bharat Sanchar Nigam Limited (BSNL), which continues to provide telecommunications services in all areas of the country other than Delhi and Mumbai. The government continues to own at least a partial stake in each of these companies and VSNL is the only one in which the government does not have a controlling stake (greater than 50%) (Sinha 2002: 11). There continues to be some ambiguity as to the role of the DoT versus TRAI, which has contributed to the time it has taken to implement liberalization reforms. Another actor that has played an important role in the process of reforms is the union representing DoT workers, which has resisted changes in the industry that could negatively affect workers (Singh 1999).

For mobile communications, licenses were first awarded in the mid-1990s to two operators, and there are now five major mobile phone operators, with other smaller operators in some regions. Initially, regulators did not expect the market for mobile communications to grow so quickly and so did not put significant emphasis on regulation in this sector (Sinha 2002: 15). The lack of complete progress in these regulatory reforms highlights the

difficulties faced by many developing countries in their attempts to liberalize. Domestic interest groups, often including actors in the government, are threatened by reforms and thus resist these efforts. While a lack of competition in the market may increase costs and decrease spread of access for the general public, coordinated political pressures continue to prevent more radical reforms.

At the same time, the Indian government has promoted strong growth in the Information Technology industry. In 1986 the Indian government developed a software policy to create a supportive national environment in which to launch a software industry. With the World Market Policy in 1988 and the establishment of the Software Technology Parks of India (STP) scheme, the Indian software industry grew from US$150 million in 1991-1992 to US$7.6 billion in 2000-2001. In this year information technology products and services accounted for 16% of the country's total exports (Accenture et al 2001; Sinha 2002: 7). The Information Technology Act of 2000 is the only major piece of legislation governing the IT industry. The goal of this Act is "to provide a legal framework for electronic commerce transactions, electronic filing, maintenance of electronic records and electronic government transactions" (DIT 2003). Thus, India was perhaps ahead of the curve in terms of implementing IT industry promotion schemes like those advocated for at the international level and directly in line with recommendations to promote eCommerce-facilitating regulations.

The incorporation of ICTs into broader development strategies is less obvious. The government's 10th Plan Document emphasizes the importance of ICTs generally in the section on Human and Social Development. In particular ICTs are noted as tools for education: to enhance adult literacy and teacher training, and to improve both secondary and higher education (OECD 2003). That said, authority over how ICTs will be used in educational processes lies with state governments and is thus not explicitly driven by national development strategies. This may be evidence of the inapplicability of broad

recommendations to countries as large and diverse as India; incorporating ICTs into development may be more likely to occur below the national level.

In other areas, such as health and agricultural development, ICTs seem to be promoting largely by private actors. Oft cited innovations such as the agricultural kiosks of the companies EID Parry and ITC or the tele-medicine initiatives of the Narayana Hrudayalaya Heart Hospital have contributed substantially to development, but have been initiated by actors outside the government.[3] It may be that governments should also find ways to incentivize ICT for social development initiatives in the private sector, rather than simply economic development efforts.

Finally, what efforts have been made in India to track and evaluate initiatives? The Department of Information Technology (DIT) is charged with tracking ICT initiatives, but the data available through its website or annual report largely refers only to DIT sponsored initiatives. A new project called Mission 2007, sponsored by NGOs such as the M.S. Swaminathan Research Foundation and the national government, is endeavoring to build on the many telecenter projects currently in the field in order to expand computer and Internet access sites to every Indian village. This effort will clearly involve a huge amount of data collection on the currently operating projects, but it is unclear if this information will be accessible by the public. Evaluations of individual projects seem to occur on an ad hoc basis, and usually in response to the demands of project funders.

In general, the Indian experience presents a mixed response to international ICT for development norms. Early privatization and liberalization efforts were incomplete and continue to emerge on the regulatory agenda, now often in relation to convergence of the telecommunications and broadcasting industries. Promotion of the IT industry has been quite successful, but this success itself may be a distraction from efforts to incorporate ICTs into the broader development agenda. Tracking and evaluation are inconsistent, and this is an

[3] See Kumar, Richa. 2005. "eCoupals: A Study on the Financial Sustainability of Village Internet Centers in rural Madhya Pradesh," *Information Technologies and International Development* 2 (1): 45-73 and www.hrudayalaya.com, respectively

even greater loss for our general knowledge on ICT4D than in other countries, given the substantial number of projects currently occurring in India.

South Africa

The regulatory environment for telecommunications in South Africa has followed a similarly bumpy path as India's. During the mid-1990s, the government of South Africa began a revision of its telecommunications industry as part of the process of reforming apartheid institutions. This resulted in the Telecommunications Act of 1996 and a subsequent amendment to the Act in 2001. The Telecommunications Act and its Amendment set the environment for all telecommunications in the country, in particular fixed line and mobile communications, in addition to value-added services related to telecommunications (including lines used to connect users to the Internet). A key provision of the first Act was an extended monopoly for the state telecommunications provider, Telkom. While the expected introduction of additional operators was included in the Act, the date for this change was left up to the Minister of Communications. The initial independent regulatory body, SATRA, was established, however the powers of the body were seen as limited in comparison to what was expected from the preparation process for the legislation.[4] Telkom was partially privatized, with Telecom Malaysia and SBC Communications purchasing 12% and 18% of the company respectively.

The 2001 Telecommunications Act Amendment provides for the introduction of a second network operator for fixed line services, which was to be introduced in 2002 but is now expected in 2005. Separate licenses are available for mobile operators, and there are currently three national mobile operators, MTN, Cell C and Vodacom, with Vodacom being a partially government-owned enterprise.[5] In order to facilitate access in under-serviced areas, the Act provides the opportunity for small businesses to apply for "under-serviced area

[4] See Marais 2001, pp 272-281.
[5] MTN was partially owned by the South African state's transportation and logistics company Transnet until 2002. See www.mtn.co.za

licenses." The license may be used to provide "any telecommunication services, including voice over internet protocol services, fixed-mobile services and public pay telephones," in areas where the Minister of Communications determines there is teledensity of less than 5% (Telecommunications Act 1996, 16).[6] The distribution of these licenses has not yet occurred. In 2000 the Independent Communications Authority of South Africa (ICASA) was created to oversee the regulators for both telecommunications and broadcasting, replacing SATRA and the Independent Broadcasting Authority (IBA).

In the case of mobile phone licensing, the experience has been quite different. Because there was not an incumbent state-owned operator when the licensing process began for mobile networks, historical ownership legacies did not impinge on the industry. While the national government initially owned a stake in both Vodacom (via Telkom) and MTN (via Transnet), neither are fully owned by the government and the process of introducing a third operator, Cell C, has been smoother than in the case of land line operators.

The regulatory experience in South Africa is thus in many ways quite similar to that of India. Efforts to introduce liberalization in particular have hit repeated snags and the anticipated benefits from increased competition have been delayed. While these proposed benefits are widely recognized, they are outweighed by pressures against reform and the difficulties, particularly in the South African case, of finding a viable second landline operator.

The South African government has also made an effort to promote IT industry growth, particularly in the growing technology hubs of the Western Cape and Gauteng provinces. Though these efforts have not yet been as successful as those in India, the software development industry continues to grow.

South Africa has made no clear moves to incorporate ICTs into general development strategies. However, the national Department of Education initiated the Technology-Enhanced Learning Investigation (TELI) in 1996, which focused "on developing an enabling

[6] 'Teledensity' refers to the number of phone lines per 100 people.

infrastructure for the effective use of technologies in education and training and not on providing inflexible, top-down 'solutions' that take no account of differing contexts" (IDRC 2001). The use of ICTs is then expected to support the wider goals of the educational system that are generally to "develop people for citizenship and skills for employment."[7] The TELI initiative led to the development of a Discussion Document on the use of technology in education which included a decision-making framework to help educators at other levels of government make choices on appropriate technologies for their learning environment. As in the Indian case, these are only recommendations and actual ICT and education efforts at the provincial level are quite varied.

In other social development areas the most activity seems to be in health care. Again we see initiatives being driven by private actors, rather than the government. It is unclear if the national government has intentions to more explicitly incorporate ICTs into its development agenda.

The tracking and evaluation of ICT projects in South Africa seems even more ad hoc than in India. Bridges.org, a non-profit organization dedicated to ICT and development issues, is one of the most reliable sources of information on ICT initiatives, thanks to its research report effort. But even these efforts do not rigorously track all of the initiatives that are currently taking place. Evaluation occurs on a project basis, if at all. Again, evaluations seem linked to the desires of funding agencies for accountability.

The situation we observe in South Africa is quite similar to that of India in terms of alignment, or lack thereof, with international norms. Privatization and liberalization of fixed-line telephony struggles against entrenched interests, while mobile phone licenses are made competitive and access spreads quite rapidly. The education sector is the most obvious social development area where ICTs are being incorporated into the general strategy, but this is occurring, if at all, at the provincial level. Health innovations are occurring in pockets through the country, but agricultural use of ICTs, if it exists, has received little publicity. In

[7] See the Department of Education website http://education.pwv.gov.za

terms of monitoring and tracking, South Africa clearly has not made significant progress in either of these areas.

Conclusions

Norms and strategies for using information and communication technologies for promoting development are reasonably different than other norms that have been considered to date by political scientists. Not promoting access to these technologies is unlikely to be linked to direct harm, unlike international human rights or nuclear non-use norms. For this reason it is unlikely that we would ever observe strong sanction-like behavior on the part of other nations to encourage ICT development. At the same time, international organizations are investing substantial amounts of time and money to pursue access to these technologies in particular ways. An important part of this investment is in the form of discursive agenda setting through the type of widely publicized reports analyzed for this paper.

What emerges from this initial analysis is that while there are clear norms about the uses and goals of ICTs for development, in addition to ideas for overcoming barriers to these efforts, these norms are dynamic over time and not completely consistent across all organizations. This is unsurprising to the extent that new experiences with new technologies are bound to produce changing norms regarding their appropriate use. In addition, each organization has a slightly, or significantly, different development agenda. From this perspective it is actually quite interesting that there are common themes across the organizations at all. Thus early efforts to promote telecommunications liberalization and current efforts to improve monitoring and evaluation and to ‘mainstream’ ICTs into the broad development agenda stand out as important cases of general consensus in an arena of quite diverse opinions.

The actual effects of these norms at the domestic level, however, are clearly limited. While international organizations may promote particular strategies for improving

opportunities to use ICTs for development, their discursive efforts are often not enough to overcome key political and economic barriers to change. In those cases where organizations fund particular projects, there is the opportunity to implement specific strategies with regard to monitoring and evaluation. Similar activities may also be possible at the national level in those cases where an organization such as the World Bank works with a national government on its development strategies. In terms of regulation, some of the strongest and longest lasting international norms we've observed, those regarding telecommunications liberalization, still meet with strong domestic resistance. Without stronger 'teeth' or incentives for threatened interest groups, it is unlikely that norms, of their own accord, can have strong effects in this particular area.

This paper represents the beginning of what will hopefully be increased attention to the large amount of activity occurring at the international level to promote information and communication technologies for development. This issue area is of both substantive interest to scholars of development and provides an exciting opportunity to track dynamic norm evolution and diffusion. While this data collection and analysis are only a starting point, they hopefully provide some new insights to foster further discussion.

Appendix 1 - Methodology

The universe of potential cases for this analysis was documents produced by international actors, be they international organization, multilateral institutions, international non-governmental organizations, or foundations. I conducted both general key word searches for information and communication technologies and development and I also searched the websites of organizations that I knew from previous research were active in ICTs for development issues. I collected all of the reports that were of a general nature, in that they were not specific to a world region or type of technology. The potential exceptions to this are the UNCTAD eCommerce and Development reports, which are specific to eCommerce issues, and an Overseas Development Institute report specific to ICTs for rural development. In both cases the reports seem general enough to be included in the broad set of cases. At the end of this process I had a universe of 107 documents. While this is clearly not all of the documents produced, it should represent a substantial portion of those produced by the dominant organizations in this issue area, and in particular those documents that they make easily available for public consumption.

I then utilized a purposive sampling technique in which I chose one report from each organization in each year that they produced a report. The logic of this approach was to ensure broad temporal coverage while at the same time maintaining a good representation of the perspectives of each organization. The key assumption in this approach is that a given organization will not make substantially different arguments about ICTs and development in multiple reports produced in a single year. The result of this sampling procedure was a set of 39 reports.

I then developed a set of six question to pose to the texts: 1) What specific types of technologies should be promoted/used? 2) How can these technologies be used? 3) What goals can be achieved through use of these technologies? 4) What actors should be driving or participating in these efforts? 5) What risks or barriers exist for ICT4D initiatives? 6) What opportunities or strategies exist to overcome these risks and barriers?

The basic coding scheme involved a dichotomous coding in which a 1 signifies the presence of a theme in the document. Documents were coded 1 if there was one or more mention of a particular theme. They were coded zero if the theme was mentioned in the negative (e.g. Dial-up connections used to be the goal, but now people are striving for broadband connections). The majority of zeros, however, are due to non-mentions.

Appendix II – Reports in Database

1994 UNDP Sustainable Development Network
1995 UNDP Sustainable Development Network
UNIDO - ICTs: Growth, competitiveness and policy for developing nations
1996 UNDP Sustainable Development Network - The Role of Informatics in Sustainable Development
World Bank - InfoDev Annual report
1997 UNDP - Sustainable Development Network 1992-1997
World Bank - InfoDev Annual report
1998 World Bank – World Development Report
World Bank - infoDev Annual Report
UNDP - Sustainable Development Networking Programme- The Internet and Deving Countries: A New Paradigm
1999 World Bank - infoDev Fall Newsletter
2000 Markle Foundation - Baird DOTForce Comments
World Bank - infoDev Annual Report
2001 UNCTAD - eCommerce and Development Report
Markle, UNDP, Accenture – Digital Opportunity Initiative Final Report
UNDP - Human Development Report – Technology for Human Development
World Bank 2001 - infoDev Annual Report
Global Knowledge Partnership - Annual Report
2002 Markle Foundation - Roadmap for Developing Country Participation in ICT Decisionmaking
UN ICT Task Force - Summary of Third Meeting
UNCTAD - eCommerce and Development report
World Bank - Group Strategy for ICTs
Global Knowledge Partnership - Annual Report
Overseas Development Institute - ICTs in Rural Development
2003 Markle Foundation - National Strategies of ICT for Development
OECD - Integrating ICTs in Development Programs
UN ICT Task Force - Overview of e-Strategies: Making the link with poverty and the MDGs
UNCTAD - eCommerce and Development Report
UNDP - ICTs and MDGs
World Bank - ICTs, Poverty & Development: Learning From Experience
World Summit on the Information Society - Declaration of Principles
Global Knowledge Partnership - Annual Report
2004 UN ICT Task Force - Annual Report
UNCTAD - eCommerce and Development Report
UNDP - Sustainable Development Networking Programme Assessment Final Report
World Bank - Global IT Report 2003/4
Global Knowledge Partnership - Annual Report
UN ICT Task Force - Innovation & Investment: ICTs & MDGs
2005 World Bank - ICT Task Manager's Toolkit - Route Map

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Organization for Economic Cooperation and Development. 2003. "Examples of Information and Communication Technology (ICT) in National Development Plans as of August 2003," OECD Global Forum on the Knowledge Economy.

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Simmons, Beth A. and Zachary Elkins. 2004. "The Globalization of Liberalization: Policy Diffusion in the International Political Economy," *American Political Science Review* 98 (1): 171-189.

Singh, J.P. 1999. *Leapfrogging Develoment? The Political Economy of Telecommunications Reform* (Albany: State University of New York Press)

Sinha, Sidharth. 2002. "Competition Policy in Telecommunications: The Case of India" (International Telecommunications Union) http://www.itu.int/osg/spu/ni/competition

South Africa, Republic of. 1996. South Africa Telecommunications Act. No. 103, Chapter VII 59 (1)